UNITED STATES DISTRICT COURT DISTRICT OF MASSACHUSETTS

In re PEGASYSTEMS INC. SECURITIES)	No. 1:22-cv-11220-WGY
LITIGATION)	
)	STIPULATED ELECTRONIC DISCOVERY
	— ′	PROTOCOL AND [PROPOSED] ORDER

Lead Plaintiffs Central Pennsylvania Teamsters Pension Fund - Defined Benefit Plan, Central Pennsylvania Teamsters Pension Fund - Retirement Income Plan 1987, and Construction Industry Laborers Pension Fund, individually and on behalf of all other persons similarly situated, and defendants Pegasystems Inc. and Alan Trefler, by and through their undersigned counsel, pursuant to the Federal Rules of Civil Procedure, herewith, agree to the following Electronic Discovery Protocol (hereafter, the "Protocol").

This Protocol shall be read consistently with the Federal Rules of Civil Procedure, the Local Rules for the District of Massachusetts, and any other applicable rules. Nothing herein shall be construed to impose on any producing party any obligation that contradicts the standard set by Federal Rule of Civil Procedure 34 or imposes burdens that are in excess of those imposed by Rule 34. Any disputes arising out of the production of documents subject to this Protocol shall be resolved according to Federal Rules of Civil Procedure, the Local Rules for the District of Massachusetts, and any other applicable orders and rules.

This Protocol shall also be provided to any third party who is subpoenaed in this action but the subpoenaed party is not required to comply with the terms of this Protocol.

I. SEARCHES OF ELECTRONICALLY STORED INFORMATION

The parties have agreed to negotiate in good faith to come to an agreement on search methods used to identify potentially relevant information. The parties will meet and confer regarding custodians, date ranges, search terms or other search methodology, and custodian and non-custodian sources likely to contain information potentially relevant to the claims and defenses at issue in the case. If a party uses search terms to identify potentially relevant documents, the parties agree to collaborate on the development and refinement of the search terms and the population of documents across which the search terms shall be run. The parties contemplate that this process may

include the sharing of search term hit reports for proposed terms. If a party uses technology-assisted-review to cull documents from review for purposes of production or from production, the opposing party must be informed prior to agreeing to search terms and prior to using the technology, with ample time to meet and confer on an appropriate, mutually agreeable protocol.

If, after reviewing productions of documents and conducting other investigation and discovery, either party requests that additional custodians and custodial or non-custodial sources be searched and/or additional search terms be applied, the parties agree to meet and confer regarding any such request.

II. PRODUCTION OF ESI¹

A. Format

Except where otherwise noted in this section, the parties will produce ESI in single-page, black and white, TIFF Group IV, 300 DPI TIFF images.

Spreadsheet, presentation type files (e.g., PowerPoint), and audio and video files shall be produced in native format. Presentation type files (e.g., PowerPoint) shall also be produced in TIFF format. If presentation type files (e.g., PowerPoint) that the parties have agreed to produce in native format need to be redacted to protect information subject to the attorney-client privilege, work product doctrine, or any other privilege or doctrine protecting information from disclosure, those will be redacted and produced as single-page, 300 DPI JPG images with JPG compression and a high quality setting as to not degrade the original image. Presentation type files (e.g., PowerPoint) produced in TIFF/JPG will display both the slide and the speaker's notes. If spreadsheets that the parties have agreed to produce in native format need to be redacted to protect information subject to

Documents that were not produced in the first instance in this litigation, *i.e.*, documents that were previously produced in other matters or proceedings, shall be re-produced consistent with the format of electronically stored information ("ESI") used in those other matters or proceedings.

the attorney-client privilege, work product doctrine, or any other privilege or doctrine protecting information from disclosure, those will be redacted using native redaction software and produced in native format.

The party receiving any document in discovery may request that documents produced in black and white, identified by Bates number, be re-produced in color if the party has a good-faith belief that an original document contains color and that color may be helpful to understand the meaning or content of the document. The parties agree to promptly meet and confer on any such request, and reasonable requests made by a party pursuant to this paragraph shall not be denied.

The parties are under no obligation to enhance an image beyond how it was kept in the usual course of business.

TIFFs/JPGs will show any and all text, hidden content, and images that would be visible to the reader using the native software that created the document, subject to any redactions to protect information subject to the attorney-client privilege, work product doctrine, or any other privilege or doctrine protecting information from disclosure. For example, TIFFs of email messages will include the BCC line, and documents will display comments and hidden content. If the TIFF/JPG image does not accurately reflect the document as it was kept in the usual course of business, including all comments, edits, tracking, etc., the parties agree to meet and confer in good faith on production format options.

If a document is produced in native format, a single-page Bates stamped image slip sheet stating the document has been produced in native format should be provided. Each native file should be named according to the Bates number it has been assigned and should be linked directly to its corresponding record in the load file using the NATIVELINK field. To the extent that either party

believes that documents, not already identified within this Protocol, should be produced in native format, the parties agree to meet and confer in good faith.

B. De-Duplication

Each party may remove duplicative ESI to reduce the unnecessary cost of reviewing and producing duplicative ESI. If a party elects to remove duplicative ESI, the party shall only remove exact duplicate documents based on MD5 or SHA-1 hash values, at the family level.

Attachments should not be eliminated as duplicates for purposes of production, unless the parent email and all attachments are also duplicates. The parties agree that an email that includes content in the BCC or other blind copy field shall not be treated as a duplicate of an email that does not include content in those fields, even if all remaining content in the email is identical.

Removal of near-duplicate documents (including the use of email thread suppression to remove documents from production) is not acceptable.

De-duplication will be done across the entire collection (global de-duplication) and the CUSTODIAN-ALL field will list each custodian, separated by a semicolon, who was a source of that document and the FILEPATH-DUP field will list each file path, separated by a semicolon, that was a source of that document. Should the CUSTODIAN-ALL or FILEPATH-DUP metadata fields produced become outdated due to rolling productions, an overlay file providing all the custodians and file paths for the affected documents will be produced prior to substantial completion of the document production, and after the date for substantial completion should the CUSTODIAN-ALL or FILEPATH-DUP metadata fields become outdated due to productions made following the date for substantial completion.

C. Metadata

All ESI will be produced with a delimited, database load file (in .dat format) that contains the metadata fields, where available in the usual course of business, listed in Table 1, attached hereto. The metadata produced should have the correct encoding to enable preservation of the documents' original language. For ESI other than email and e-docs that do not conform to the metadata listed in Table 1, such as text messages, Instant Bloomberg, iMessage, Google Chat, Yammer, Slack, Teams, Google Docs, etc., the parties will meet and confer as to the appropriate format of production and metadata fields to be produced.

Short Message Communications D.

The parties will meet and confer regarding the appropriate methodology for identifying and searching, and the format for producing, short message format communications such as those from mobile devices, instant messaging, or collaborative tools (e.g., text messages, Instant Bloomberg, iMessage, Google Chat, Yammer, WhatsApp, Slack, Webex, Teams, etc.), including attachments to such communications, if any.

Embedded Objects E.

Embedded files shall be produced as attachments to the document that contained the embedded file, with the parent/child relationship preserved. The embedded files will be marked with a "YES" in the load file under the "Is Embedded" metadata field. The parties agree logos need not be extracted as separate documents as long as they are displayed in the parent document.

F. Attachments

If any part of an email or Teams chat and its attachments is responsive, the entire email or Teams chat and its attachments should be produced, except any attachments that must be withheld or redacted on the basis of privilege. The parties should meet and confer about whether there is an appropriate basis for withholding a family document for any reason other than attorney-client or work product privilege. Attachments should be produced sequentially after the parent email or Teams chat. The parties shall use their best efforts to collect and produce documents that are links in communications such as emails and chats, including, but not limited to, cloud attachments in Microsoft 365, to the extent those collections can be done in an automated manner. If the producing party finds that this process is unduly burdensome, the receiving party will be promptly notified so the parties can meet and confer. Documents extracted from links shall be populated with the BEGATTACH and ENDATTACH metadata fields to show the family relationship. The parties understand that the linked document collected and produced by the producing party may consist of the document as it existed at the time of collection and not necessarily the document as it existed at the time the communication containing the link was sent, and the parties will meet and confer regarding reasonable requests for earlier versions of the linked document, including the version that existed at the time the communication containing the link was sent. If certain linked documents cannot be collected in an automated manner without imposing an undue burden on the producing party, the parties agree to promptly meet and confer to discuss alternative methods of collection and production.

G. Compressed Files Types

Compressed file types (e.g., .ZIP, .RAR, .CAB, .Z) should be decompressed so that the lowest level document or file is extracted.

H. Structured Data

To the extent a response to discovery requires production of electronic information stored in a database, the parties will meet and confer regarding reasonable methods of production.

I. Encryption

To maximize the security of information in transit, any media on which documents are produced may be encrypted. In such cases, the producing party shall transmit the encryption key or password to the receiving party, under separate cover, contemporaneously with sending the encrypted media.

J. Password-Protected Documents

To the extent a producing party's document is password-protected, the producing party shall make reasonable attempts to open, review, and produce the document as a TIFF image that may be read without use of a password.

III. PRODUCTION OF HARD-COPY DOCUMENTS - FORMAT

Hard-copy documents should be scanned as single-page, Group IV, 300 DPI TIFF images with an .opt image cross-reference file and a delimited database load file (*i.e.*, .dat). The database load file should contain the following fields: "BEGNO," "ENDNO," "PAGES," "VOLUME," and "CUSTODIAN." The documents should be logically unitized and be produced in the order in which they are kept in the usual course of business.

The party receiving any document in discovery may request that documents produced in black and white, identified by Bates number, be re-produced in color if the party has a good-faith belief that an original document contains color and that color may be helpful to understand the meaning or content of the document. The parties agree to promptly meet and confer on any such request, and reasonable requests made by a party pursuant to this paragraph shall not be denied.

Multi-page OCR text for each document should be provided. The OCR software shall maximize text quality. Settings such as "auto-skewing" and "auto-rotation" should be turned on during the OCR process.

IV. PRIVILEGE LOG

To the extent that a party reasonably determines that a document is not discoverable or a portion of a document needs to be redacted because it is subject to the attorney-client privilege or work product doctrine, or is otherwise not discoverable on the basis of a recognized protection or privilege (collectively, the "Privileges," and each, a "Privilege"), the party shall provide a log, treating each document withheld or redacted for Privilege from that production separately, and shall provide information sufficient to allow the receiving party to assess the claimed Privilege and/or to allow the Court to rule upon the applicability of the claimed protection. Privilege logs shall be provided in Excel format.

Where a document is withheld on the basis of Privilege, the information on the log corresponding to the withheld document shall include: (a) the Bates number range, if applicable; (b) the title or email subject of the document, unless its disclosure will disclose information protected by the Privilege; (c) a description of the nature of the information not produced or disclosed to enable other parties to assess the claim, in accordance with Federal Rule of Civil Procedure 26(b)(5)(A)(ii); (d) the name(s) of the person(s) who created and received the document, if known; (e) the date of the document; and (f) the basis for the claim that the document is privileged or protected (e.g., "Attorney-Client Privilege," "Work Product"). The log shall identify which individuals on the privilege log are attorneys.

Where a document is redacted on the basis of Privilege, and the information described in (b)(e) above is apparent from the face of the redacted document, the information on the log
corresponding to the redacted document shall at least include the information described in (a) and (f)
above. For redacted documents, if there is more than one redaction, one log entry can be used to
describe the multiple redactions. Redactions affixed to documents shall indicate on the redaction the

Privilege or protection asserted over the redacted text (e.g., "Attorney-Client Privilege," "Work Product").

Except where a full document family is withheld in its entirety on the basis of Privilege, if any parent email or attachment is withheld in its entirety on the basis of Privilege, the producing party will produce a placeholder image stating the claimed Privilege over the withheld document; however, a producing party may redact the parent email or attachment in lieu of producing a placeholder image in its place, so long as the parent email or attachment is treated as a withheld document for purposes of a privilege log.

V. MODIFICATION

This Protocol or any practice or procedure set forth herein may be modified by written agreement of the parties or by the Court for good cause shown.

DATED: October 30, 2023

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IT IS SO ORDERED.

DATED: Nov-1, 2023

THE HONORABIJE WITCHAM G. YOUNG UNITED STATES DISTRICT JUDGE

TABLE 1: METADATA FIELDS¹

Field Name)	/ Example //Formath	Description
BEGNO	ABC000001 (Unique ID)	The Document ID number associated with the first page of a document.
ENDNO	ABC0000003 (Unique ID)	The Document ID number associated with the last page of a document.
BEGATTACH	ABC0000001 (Unique ID Parent-Child Relationships)	The Document ID number associated with the first page of the parent document.
ENDATTACH	ABC0000008 (Unique ID Parent-Child Relationships)	The Document ID number associated with the last page of the last attachment.
VOLUME	VOL001	The name of CD, DVD, or Hard Drive.
RECORDTYPE	Options: eMail, Attachment, Scanned Doc, eFile	The record type of a document.
SENTDATE	MM/DD/YYYY	The date the email or calendar entry was sent.
SENTTIME	HH:MM	The time the email or calendar entry was sent.
RECEIVEDDATE	MM/DD/YYYY	The date the document was received.
RECEIVEDTIME	нн:мм	The time the document was received.
CREATEDATE	MM/DD/YYYY	The date the document was created.
CREATETIME	нн:мм	The time the document was created.
LASTMODDATE	MM/DD/YYYY	The date the document was last modified.
LASTMODTIME	HH:MM	The time the document was last modified.
MEETING START DATE	MM/DD/YYYY	Start date of calendar entry.
MEETING START TIME	нн:мм	Start time of calendar entry.
MEETING END DATE	MM/DD/YYYY	End date of calendar entry.
MEETING END TIME	HH:MM	End time of calendar entry.
FILEPATH	i.e. /JsmithPC/Users/Jsmith/Desktop	The file path from the location in which the document was stored in the usual course of business. This field should be populated for both email and e-files.
FILEPATH-DUP	i.e. /JSmith.pst/Inbox	The file paths from the locations in which the duplicate documents were stored in
V.	/Network Share/Accounting/ /TJohnsonPC/Users/TJohnson/My Documents/	the usual course of business. This field should be populated for both email and e- files and separated by semicolons.
AUTHOR	jsmith	The author of a document from extracted metadata.
FROM	jsmith Joe Smith <jsmith@email.com></jsmith@email.com>	The name of the last person to edit the document from extracted metadata. The display name and email address of the author of an email/calendar item.
PROM	Joe Smith Spriitheerhall.com2	An email address should always be provided.
10	Joe Smith <jsmith@email.com>; tjones@email.com</jsmith@email.com>	The display name and email address of the recipient(s) of an email/calendar item. An email address should always be provided for every email if a recipient existed.
СС	Joe Smith <jsmith@email.com>; tjones@email.com</jsmith@email.com>	The display name and email of the copyee(s) of an email/calendar item. An email address should always be provided for every email if a copyee existed.
ВСС	Joe Smith <jsmith@email.com>; tjones@email.com</jsmith@email.com>	The display name and email of the blind copyee(s) of an email or calendar item. An email address should always be provided for every email if a blind copyee existed.
SUBJECT		The subject line of the email/calendar item.
MESSAGE TYPE	Appointment, Contact, Task, Distribution List, Message, etc.	An indication of the email system message type.
IMPORTANCE	Normal, Low, High	Email Importance Flag
TITLE		The extracted document title of a document.
CUSTODIAN-ALL	Smith, Joe; Doe, Jane	All of the custodians of a document from which the document originated, separated by semicolons.
SOURCE	Computer, Mobile Phone, Email, Network Share, Database Name, etc.	The source from which the document was collected.
ATTACH COUNT	Numeric	The number of attachments to a document.
FILEEXT	XLS	The file extension of a document.
FILENAME	Document Name.xls	The file name of a document.
FILESIZE	Numeric	The file size of a document (including embedded attachments).
IS EMBEDDED	Yes or No	The yes/no indicator of whether a file is embedded in another document.
HASH		The MD5 or SHA-1 Hash value or "de-duplication key" assigned to a document. The same hash method (MD5 or SHA-1) should be used throughout production.
CONVERSATION INDEX	V-s as Disable	ID used to tie together email threads. If a document contains a redaction, this field will display 'Yes'.
REDACTED TIMEZONE	Yes or Blank PST, CST, EST, etc	The time zone the document was processed in. NOTE: This should be the time zone
PROCESSED	D:\NATIVES\ABC000001.xls	where the documents were located at time of collection. The full path to a native copy of a document.
NATIVEUNK		
FULLTEXT	D:\TEXT\ABC000001.lxf	The path to the full extracted text of the document. There should be a folder on the deliverable, containing a separate text file per document. These text files should be named with their corresponding Bates numbers. Note: Emails should include heade information: author, recipient, cc, bcc, date, subject, etc. If the attachment or e-file does not extract any text, then OCR for the document should be provided.

For ESI other than email and e-docs that do not conform to the metadata listed here, such as text messages, Instant Bloomberg, iMessage, Google Chat, Yammer, Slack, etc., the parties will meet and confer as to the appropriate metadata fields to be produced.

CERTIFICATE OF SERVICE

I hereby certify that this document filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non-registered participants on October 30, 2023.

s/ Christopher D. Stewart
CHRISTOPHER D. STEWART

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